

Satellite Competition to Terrestrial Air-to-Ground Service

Services to be offered by the terrestrial broadband provider of air-to-ground (“ATG”) communications will face vigorous competition from satellite providers. Boeing and ARINC already provide ATG services to certain market segments, and clearly intend to provide broadband ATG operations in the U.S. market. Boeing already provides broadband ATG services between the U.S. and various international destinations, and thus is particularly well positioned to compete in the domestic ATG market. First authorized in December 2001, Boeing has launched a fully operational global broadband ATG service (“Connexion”).¹ Boeing is now able to leverage its existing broadband services into the domestic market. It also is uniquely positioned to exploit its role as a manufacturer of aircraft and an integrator of ATG systems into aircraft.

In contrast, Verizon Airfone, as the nation’s only terrestrial narrowband ATG provider is sitting at the broadband starting gate. Without necessary FCC actions to authorize adequate spectrum for broadband ATG, Verizon Airfone cannot go head-to-head with the satellite-based providers. Indeed, delays in getting spectrum authority translate into a head start for the other competitors and a de facto current monopoly for Boeing’s Connexion service.

Originally, Boeing had planned to partner with several major United States airlines including American, Delta, and United.² The tragic events of September 11,

¹ See generally <http://www.connexionbyboeing.com> (last visited on Sept. 3, 2004).

² “American, Delta and United Airlines Join With Connexion By Boeing To Pursue Broadband In-Flight Connectivity Venture,” Boeing News Release, Jun. 13, 2001.

2001 led to a significant downturn in airline business. As a consequence, the U.S. carriers pulled back from a venture with Boeing, but the company pursued international airline customers while developing its service.³ Now, Boeing widely promotes its service with Lufthansa and its agreements with All Nippon Airways, China Airlines, Japan Airlines, Scandinavian Airlines, and Singapore Airlines while pursuing domestic air carriers and business jet operators in the United States.⁴ According to Boeing, “The service currently is available in the United States on executive jet platforms the size of a Boeing 737 and larger, including Airbus aircraft.”⁵

Boeing is well-positioned to compete in the ATG market. It is a knowledgeable aviation player. As the leading United States supplier of aircraft used by airlines, Boeing has long-standing relationships with air carriers. Moreover, it is positioned to integrate ATG hardware into the aircraft that it builds and services.

In a recent FCC filing to expand its FCC authority, Boeing noted that, as currently authorized, its Connexion service ensures that

“aircraft will no longer be unplugged from the networked world, and both airlines and passengers will be able to enjoy the connectivity we take for granted while on the ground.”⁶

³ “U.S. Airlines Break Connexion with Boeing,” ComputerWorld, Dec. 3, 2001, available at <http://www.computerworld.com/industrytopics/travel/story/0,10801,66221,00.html> (last visited on Sep. 3, 2004).

⁴ See Connexion by Boeing web pages: <http://www.connexionbyboeing.com/index.cfm?p=cbb.serviceavailable&l=en.US&ec=> (last accessed Sept. 2, 2004).

⁵ <http://www.connexionbyboeing.com/index.cfm?p=cbb.executivejet&l=en.US&ec=> (last accessed Sept. 2, 2004)

⁶ See Boeing, FCC File No. SES-MOD-20040301-00304 at Public Interest Statement.

Boeing further noted its current authority

“allows Boeing to provide domestic, two-way broadband data and entertainment service to passengers and crew on commercial and private aircraft over the United States, its territories and possessions” and that “the deployment of the transmit-receive earth stations aboard aircraft enables Boeing to provide advanced broadband communications services to passengers and crew members aboard commercial, corporate and U.S. government aircraft.”⁷

Unlike the prospective terrestrial 800 MHz broadband ATG provider, Boeing is not spectrum constrained. It has the ability to lease Ku band transponder capacity on satellites with many times the amount of spectrum available in the 800 MHz ATG band. Thus, its corporate heritage and architecture put Connexion by Boeing in a good position to compete with an 800 MHz broadband provider in offering cellular voice service via pico-cells, VoIP, VPN email, internet surfing, video streaming, and high speed data links to enhance airline operational efficiency. Indeed, both Boeing and the terrestrial provider will be able to serve the core of the airline industry – narrowbody and widebody domestic aircraft. As Boeing succeeds in its quest to develop smaller and lighter antennas, it will also be positioned to compete vigorously in the regional commuter airline and smaller business jet markets.

Now that its service has been launched internationally, Boeing is focusing again on the domestic market. Thus, Boeing officials have been quoted predicting a domestic customer by the end of the year and Boeing has introduced pricing plans for flight times that are more in line with domestic travel, i.e. New York to Los Angeles.⁸

⁷ *Id.* at 7-8.

⁸ “Stuck In The Air? Surf The Web. Boeing Internet Service Lands First Airline Client,” *Crain’s Chicago Business*, Mar. 25, 2004.

Boeing is not the only potential satellite competitor in the ATG business. ARINC, for its part, has sought Commission authority to provide satellite-based broadband service in competition with Connexion by Boeing.⁹ Boeing, however, has filed comments in opposition to ARINC's application.¹⁰ The ARINC application remains pending.

Major customers for ATG service – the airlines that must decide what capability to install on their aircraft – have recognized that satellite based ATG service competes with terrestrial ATG. In its recent *ex parte* submission, American Airlines recommended that the Commission

“Consider the competitive landscape not in context of the 800 MHz air-ground services band as a stand-alone service, but consider the competitive landscape in the broader scope of in flight passenger data connectivity. Data services in the 800 MHz air-ground band have the potential to offer competitive alternatives to other technologies such as satellite data services.”¹¹

As technology evolves and the demand for broadband grows, the market for satellite-based ATG service will become an even greater competitive force. If this competition is to benefit the flying public, as well as other users of ATG service, the Commission must move forward to implement new rules that will encourage robust broadband service by a terrestrial provider.

⁹ <http://www.arinc.com/news/2003/06-12-03.html> (last accessed Sept. 2, 2004). See File Nos. SES-LIC-20030910-01261 and SES-AMD-20031223-01860.

¹⁰ Comments of The Boeing Company, SES-LIC-20030910-01261 and SES-AMD-20031223-01860, Nov. 14, 2003.

¹¹ Ex Parte Letter of American Air Lines, WT Docket No. 03-103, Aug. 30, 2004.

Additional References

Additional information regarding Boeing's ATG services is provided in the following:

"Boeing Unveils High-Speed Global Communications Service - Live In-Flight Internet, Email, TV; Available Next Year," Boeing News Release, April 27, 2000.

"Boeing Airs Plan for In-Flight Communications Service," xSP News, Apr. 28, 2000.

"American, Delta and United Airlines Join With Connexion by Boeing to Pursue Broadband In-Flight Connectivity Venture," Boeing News Release, Jun. 13, 2001.

"Airlines Break with Connexion by Boeing," Computerworld, Dec. 3, 2001.

"American Airlines, United, Delta Pull Out Of Boeing's Internet System," Ananova, December 2001.

"United To Offer E-Mail And Data Access On Domestic Flights," United Airlines Press Release, Jun. 18, 2003.

Connexion Backgrounder. <http://www.Boeing.com> (last visited Aug. 31, 2004).

"Boeing In Control Of Broadband In The Skies," The Guardian, May 17, 2004.

"China Airlines Selects Connexion By Boeing For In-Flight Connectivity," Boeing News Release," Jan. 5, 2004.

"New Era To Begin In 2004 With In-Flight Connectivity," Boeing News Release, Dec. 30, 2003.

"Connexion By Boeing Announces Pricing For High-Speed In-Flight Internet Service," Boeing News Release, Mar. 25, 2004.

"Stuck In The Air? Surf The Web Boeing Internet Service Lands First Airline Client," Crain's Chicago Business, Mar. 25, 2004.

"Coffee, Tea, or Broadband?" Forbes, Jun. 17, 2004, available at www.forbes.com/technology/networks/2004/06/17/cz_qh_0617wifi.html (last visited on Sep. 3, 2004).

"In Search of an In-Air Connection," Wall St. Journal, Apr. 6, 2004, available at <http://webreprints.djreprints.com/974390656496.html> (last visited on Sep. 3, 2004).

"Boeing Sets Pricing for In-Air Internet Access," ComputerWorld, Mar. 25, 2004, available at <http://www.computerworld.com/mobiletopics/mobile/wifi/story/0,10801,91619,00.html> (last visited on Sep. 3, 2004).